PIONEER

Service Manual

CIRCUIT DESCRIPTIONS
REPAIR & ADJUSTMENTS

ORDER NO.
ARP-485-0

STEREO AMPLIFIER

SA-750

MODEL SA-750 COMES IN SIX VERSIONS DISTINGUISHED AS FOLLOWS:

Type	Voltage	Remarks
KU	AC120V only	U.S.A. model
KC	AC120V only	Canada model
HE	AC220V, 240V (switchable)	European continent model
S	AC110V, 120V, 220V, 240V (switchable)	General export model
YP	AC240V only	Australia model
HEZ	AC220V, 240V (switchable)	West Germany model

- **This service manual is applicable to the KU type.**
  For servicing of the KC, HE, HEZ, S, and YP types, please refer to pp. 24~28.
- **Ce manuel d'instruction se refère au mode de réglage, in français.**
- **Este manuel de servicio trata del método de ajuste escrito en español.**

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PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia
TEL: [03] 580-9911

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QUESTIONNAIRE

MODEL _____
One Model per questionnaire

Dear Servicer,

Thank you for your cooperation in the post-sale service of Pioneer products.

This questionnaire is used as a tool to improve the serviceability of our products and service manuals. Please evaluate this model and service manual by answering the following questions. Your ideas may be realized in our future products. Your answers will be appreciated. Thank you.

PIONEER ELECTRONIC CORP.

T. Nakagawa, Manager, Service Section, International Division

1. SERVICING EVALUATION — Circle applicable number:	Good		Fair		Poor
a. Disassembly/Re-assembly:	1	2	3	*4	*5
b. Circuit Checks:	1	2	3	*4	*5
c. Replacement of Parts:	1	2	3	*4	*5
d. Adjustment (s):	1	2	3	*4	*5

* If (4) or (5) was circled, please be specific.

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1. ÉVALUATION EN FACILITÉ DE SERVICE MODÈLE — Cerclez le numéro.	Bon,		Passable,		Mauvais,
a. Démontage/remontage	1	2	3	*4	*5
b. Examen de circuits	1	2	3	*4	*5
c. Rechange de pièces	1	2	3	*4	*5
d. Facilité de réglage	1	2	3	*4	*5

* Si vous cerclez No. 4 ou 5, donnez l'explication concrète.

Querido señor,

Muchas gracias p
mejorar el servici
siguientes. Su opi

Nos complacemos

PIONEER ELEC

T. Nakagawa, Mar

1. EVALUACIO
MODELO

a. Desmonte:

b. Examen de ci

c. Reemplazo de

d. Ajuste:

* Si marca (4) o

1. SPECIFICATIONS

Amplifier Section

Continuous Power Output is 50 watts* per channel, min., at 8 ohms from 20 Hertz to 20,000 Hertz with no more than 0.05% total harmonic distortion.

DIN, Continuous Power Output at 1 kHz
(both channels driven)
T.H.D. 1%, 8 ohms, 62 watts per channel
Total Harmonic Distortion (20 Hertz to 20,000 Hertz, 8 ohms, from CD/ VIDEO)
continuous rated power output ..... No more than 0.05%
50 watts per channel power output
..... No more than 0.05%
Damping Factor (1,000 Hertz, 8 ohms)
..... 60
Input (Sensitivity/Impedance)
PHONO ..... 2.5 mV/50 kilohms
TUNER, CD/VIDEO, TAPE PLAY, ADAPTOR IN
..... 150 mV/50 kilohms
Phono Overload Level (T.H.D. 0.1%, 1,000 Hz)
PHONO ..... 150 mV
Output Level
TAPE REC, ADPTOR OUT ..... 150 mV
Speaker ..... 6 — 16 Ω
Frequency Response
PHONO (RIAA Equalization)
..... 20 Hz to 20,000 Hz ±0.5 dB
TUNER, CD/VIDEO, TAPE PLAY, ADAPTOR
..... 10 Hz to 70,000 Hz $^{+1}_{-3}$ dB
Tone Control
BASS ..... ±10 dB (100 Hz)
TREBLE ..... ±10 dB (10 kHz)
Loudness Contour (Volume control set at −40 dB position)
..... +6 dB (100 Hz), +3 dB (10 kHz)
Hum and Noise (IHF, short circuited A network)
PHONO ..... 74 dB
TUNER, CD/VIDEO, TAPE PLAY, ADAPTOR IN
..... 102 dB
Hum and Noise (DIN, continuous rated power output/50 mW)
PHONO ..... 69 dB/62 dB
TUNER, CD/VIDEO, TAPE PLAY, ADAPTOR IN
.....88 dB/62 dB

Miscellaneous

Power Requirements
KU, KC models ..... AC 120 Volts, 60Hz
S, S/G models
~AC 110 V/120 V/220 V/240 V (switchable) 50/60 Hz
HB, YP models ..... a.c. 240 Volts~, 50 Hz
Power Consumption
KU model ..... **130 Watts UL**
KC model ..... **290 VA CSA**
S, S/G models ..... **110 Watts**
HB, YP models ..... **350 Watts**
Dimensions ..... 420 (W) x 98 (H) x 287 (D) mm
16-9/16 (W) x 3-7/8 (H) x 11-5/16 (D) in
Weight (without package) ..... 5.5 kg (12 lb)

Furnished Parts

Operating Instructions 1

NOTE:
Specifications and the design subject to possible modifications without notice.

*Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifier.

ENCUESTA

Modelo_____
Uno modelo por encuesta

Querido señor,

Muchas gracias por su cooperación en el servicio de post-venta de los productos de Pioneer. Esto es para mejorar el servicio de post-venta de nuestros productos. Les pedimos a ustedes responder a las preguntas siguientes. Su opinión e idea estarán tenido en cuenta en los productos futuros.

Nos complacemos en saludarles muy atentamente,

PIONEER ELECTRONIC CORPORATION

T. Nakagawa, Manager, Service Section, Administration Department, International Division

1. EVALUACION EN LA FACILIDAD DE SERVICIO

MODELO	Marque uno entre los numeros siguientes. Bueno Medio Malo				
a. Desmonte:	1	2	3	*4	*5
b. Examen de circuito:	1	2	3	*4	*5
c. Reemplazo de piezas:	1	2	3	*4	*5
d. Ajuste:	1	2	3	*4	*5

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*4	*5
*4	*5

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c. Reemplazo de piezas:	1 2 3 *4 *5
d. Ajuste:	1 2 3 *4 *5

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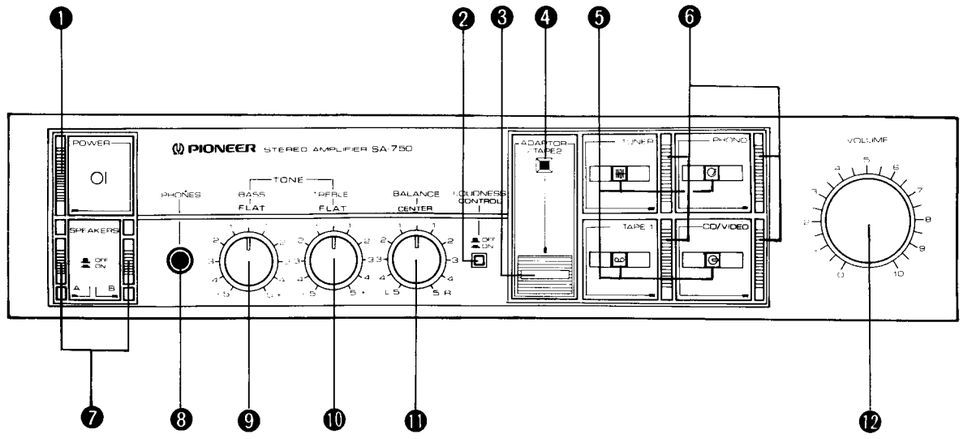
2. FRONT PANEL FACILITIES



❶ POWER SWITCH

When this switch is pushed, the power is supplied (the function indicators light). When it is pushed again, the power is switched off.

❷ LOUDNESS SWITCH

Push this switch to the "ON" position for low-volume sound listening. The bass and treble are emphasized and you can sit back and listen to a dynamic sound even under low-volume conditions.

❸ ADAPTOR/TAPE 2 SWITCH

This is used when operating an adaptor (such as a tape creating amplifier) or when playing back a tape in a tape deck connected to the rear panel ADAPTOR/TAPE 2 terminals.

❹ ADAPTOR/TAPE 2 INDICATOR

This lights when the ADAPTOR/TAPE 2 switch is set to ON.

❺ FUNCTION INDICATORS

The indicator corresponding to the function switch which has been pushed lights. Each indicator has a symbol: " ◎ " for PHONO, " ⫼ " for TUNER, " ⊖ " for CD/VIDEO and " ⚮ " for TAPE 1.

❻ FUNCTION SWITCHES

PHONO: Used when playing records on a turntable ◎ connected to the rear panel PHONO terminals.

TUNER: Used when listening to broadcasts on the ⫼ tuner connected to the rear panel TUNER terminals.

CD/VIDEO: Used when operating a TV tuner or ⊖ compact disc player etc. connected to the rear panel CD/VIDEO terminals.

TAPE 1: Used when playing back tapes in the tape ⚮ deck connected to the rear panel TAPE 1 terminals.

❼ SPEAKER SELECTOR SWITCHES

Select the switch that corresponds to the speaker systems through which the sound is to be heard. When the switch is pressed, the sound is heard through the speaker systems selected.

A: The sound is heard from the speakers connected to the speaker A terminals on the rear panel.

B: The sound is heard from the speakers connected to the speaker B terminals on the rear panel.

No sound will be heard when SPEAKERS A and B switches are both released. This is the position at which the sound can be heard through the headphones.

NOTE:
No sound will be heard through the speakers when both the A and B switches are depressed if only one set of speakers has been connected to either the A or B SPEAKERS terminals.

❽ PHONES JACK

Plug the headphones into this jack securely for private listening.

NOTE:
Make it a rule to turn down the volume before plugging in the headphones. A loud sound can hurt your ears.

❾ BASS CONTROL

This is used to adjust the bass sound.
When rotated clockwise from the center "FLAT" position, the bass is emphasized; when rotated counterclockwise, the bass is attenuated.

❿ TREBLE CONTROL

This is used to adjust the treble sound.
When rotated clockwise from the center "FLAT" position, the treble is emphasized; when rotated counterclockwise, the treble is attenuated.

⓫ BALANCE CONTROL

This is normally kept at the "CENTER" position. It should be adjusted when the left/right stereo balance has become lopsided. Rotate the control to the left when the right channel sound is too loud; rotate it to the right when the left channel sound is too loud.

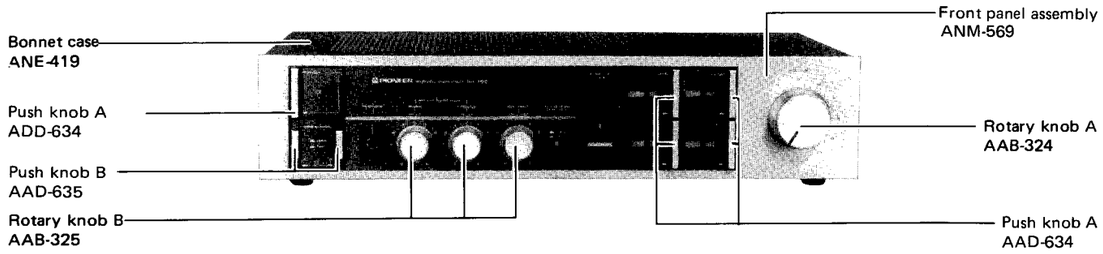
⓬ VOLUME CONTROL

This is used to adjust the sound volume of the speakers and headphone. No sound will be heard when the control has been set to the "0" position. Rotate the control clockwise to increase the sound level.

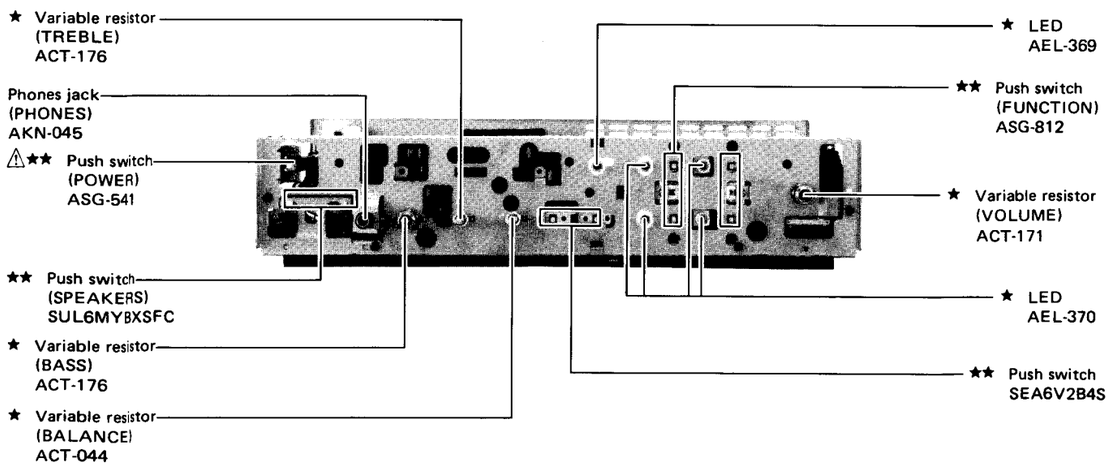
3. PARTS LOCATION

NOTES:
- *Parts without part number cannot be supplied.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *For your Parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.*
  ★★ GENERALLY MOVES FASTER THAN ★.
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.

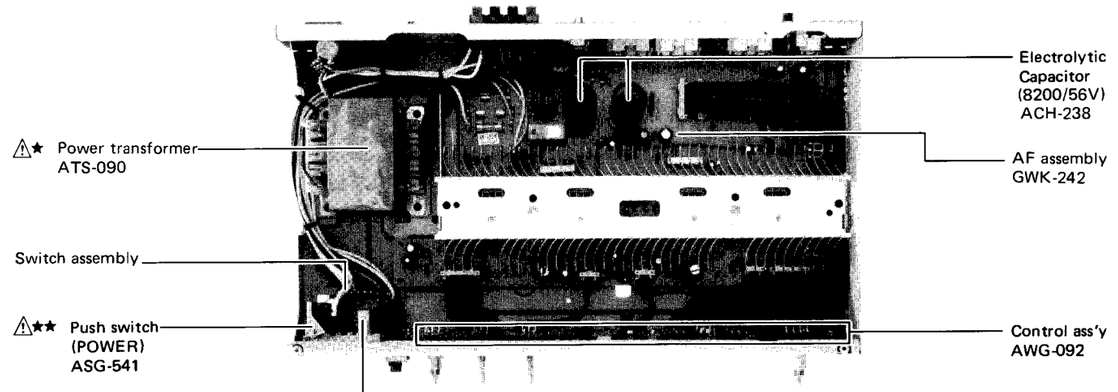
Front Panel View



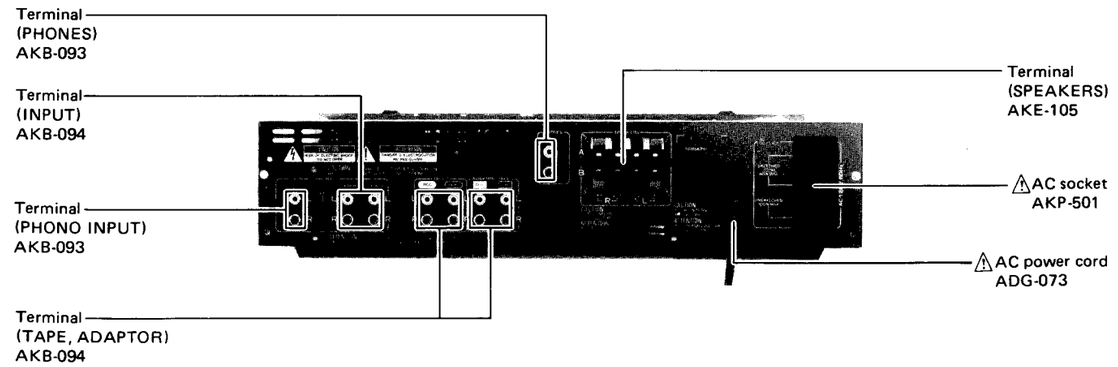
Front View with Panel Removed



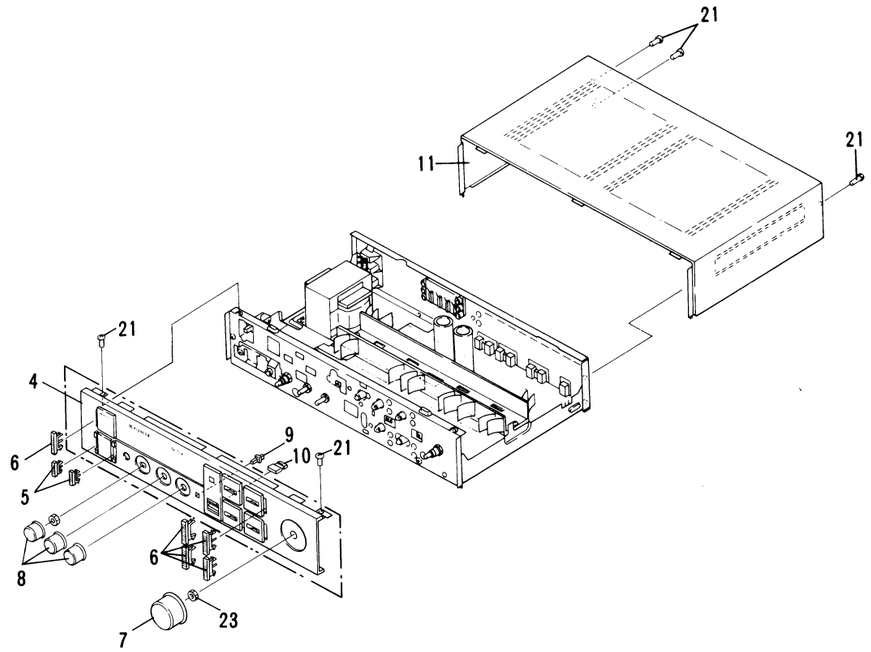
Top View

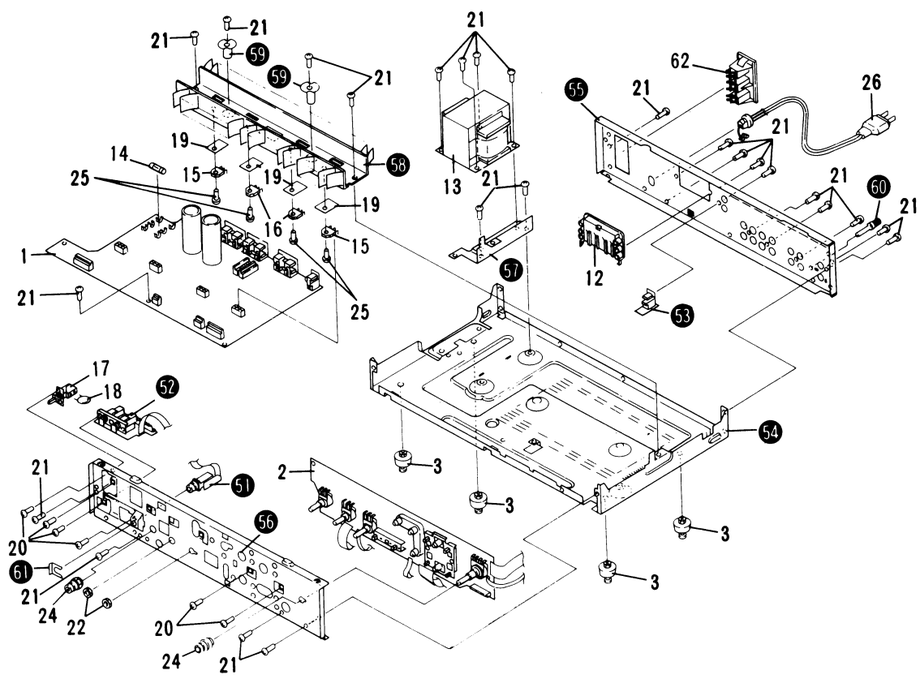


Rear Panel View



4. EXPLODED VIEW





NOTES:

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  ★★ GENERALLY MOVES FASTER THAN ★.
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.

Mark	No.	Part No.	Description
	1.	GWK-242	AF assembly
	2.	AWG-092	Control assembly
	3.	AEP-007	Foot assembly
	4.	ANM-569	Front panel assembly
	5.	AAD-635	Push knob B
	6.	AAD-634	Push knob A
	7.	AAB-324	Rotary knob A
	8.	AAB-325	Rotary knob B
	9.	AAD-637	Push knob D
	10.	AAD-638	Push knob E
	11.	ANE-419	Bonnet case
	12.	AKE-105	Terminal (SPEAKERS)
⚠ ★	13.	ATS-090	Power transformer (KU type)
⚠ ★	14.	AEK-125	Fuse (4A)
★★	15.	2SC3182N/A/-0* (2SC3182N/A/-R)	Transistor
★★	16.	2SA1265N/A/-0* (2SA1265N/A/-R) *hfe should have the same value	
⚠ ★★	17.	ASG-541	Push switch (POWER)
⚠	18.	ACG-502	Ceramic capacitor (0.01/125V)
	19.	AEC-818	Mica wafer
	20.	PMZ30P060FMC	Screw (3x6)
	21.	BBZ30P080FZK	Screw (3x8)
	22.	NK70FUC	Nut
	23.	NKX1FUC	Nut
	24.	ABN-075	Guide nut
	25.	ABA-258	Screw
⚠	26.	ADG-073	AC power cord
	51.		Headphone assembly
	52.		Switch assembly
	53.		Pin jack assembly
	54.		Chassis
	55.		Rear panel
	56.		Panel stay
	57.		Frame
	58.		Heat sink
	59.		Heat cap
	60.		Terminal (GND)
	61.		Mounting plate
⚠	62.	AKP-501	AC socket

5. BL

2.5

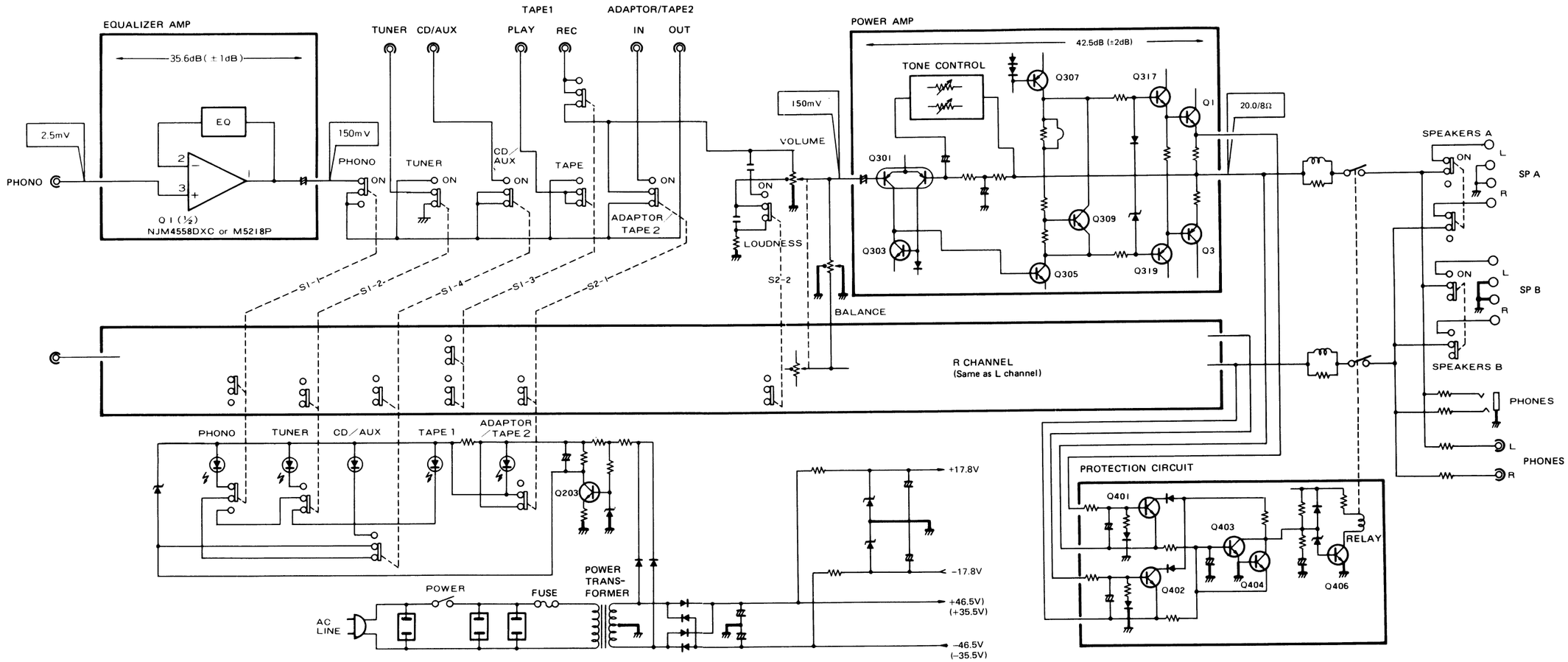
PHONO

5. BLOCK DIAGRAM

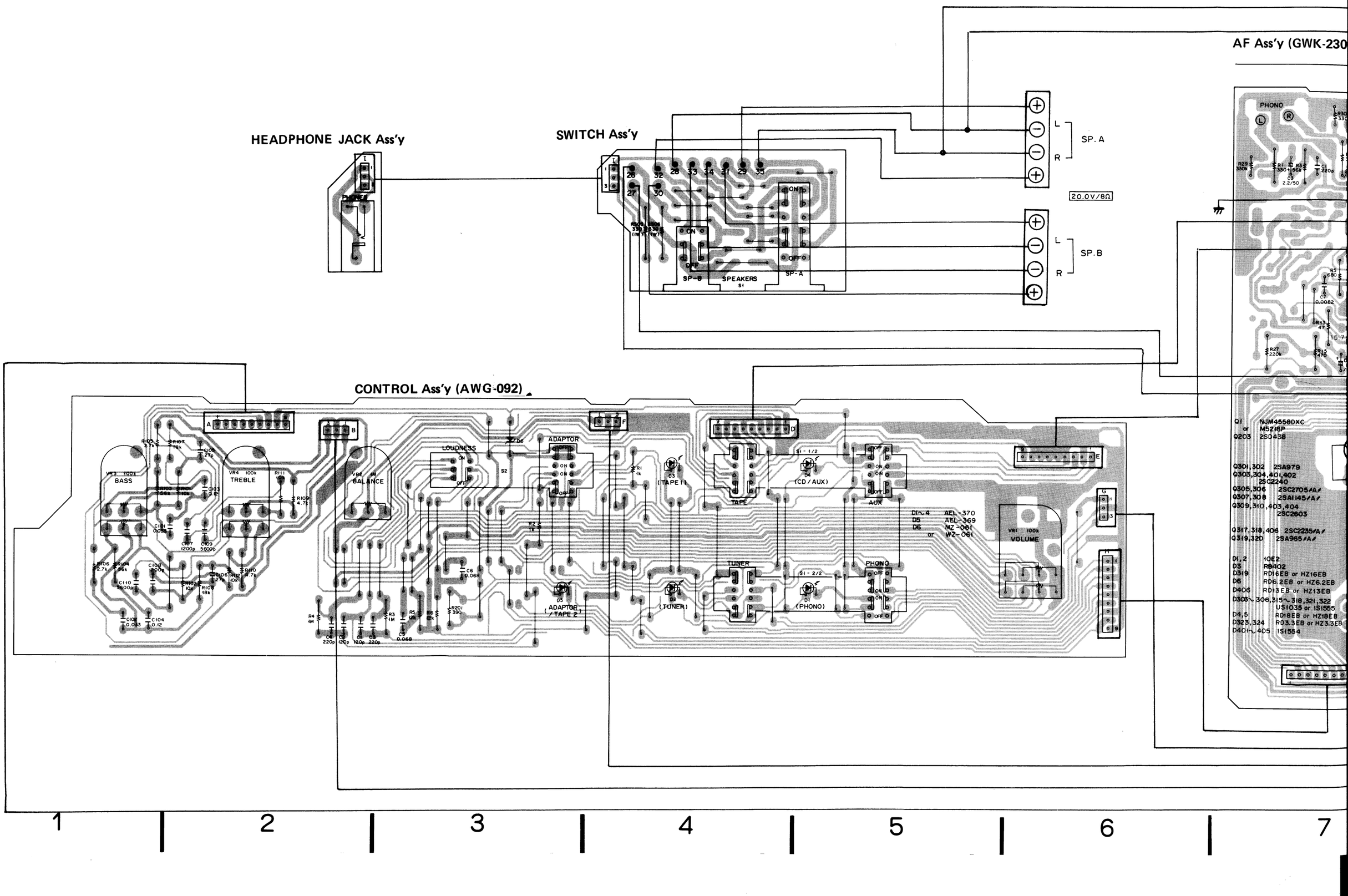
s the importance of the
e to use parts of identical

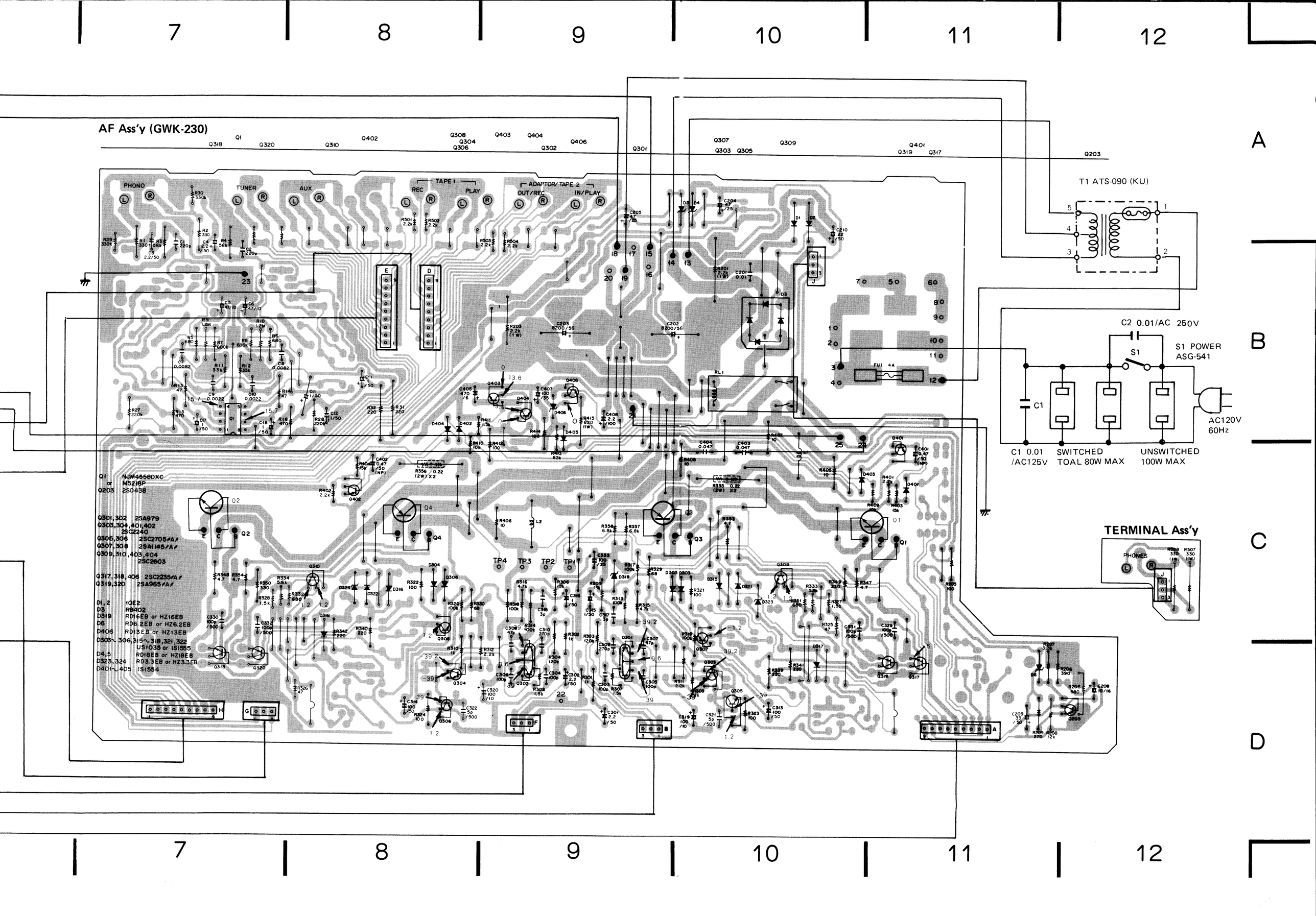
ndicated with the marks

use it depends on model

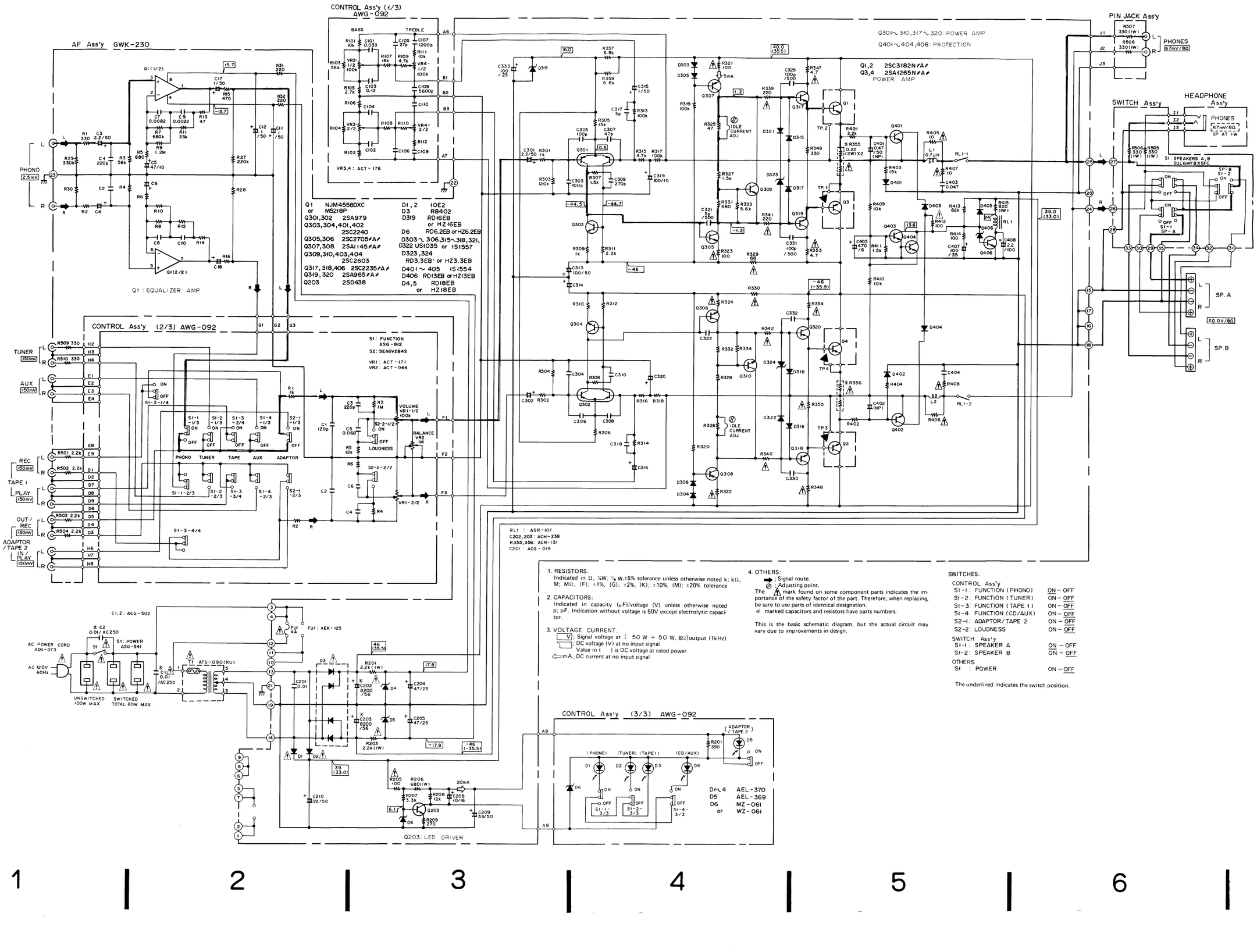


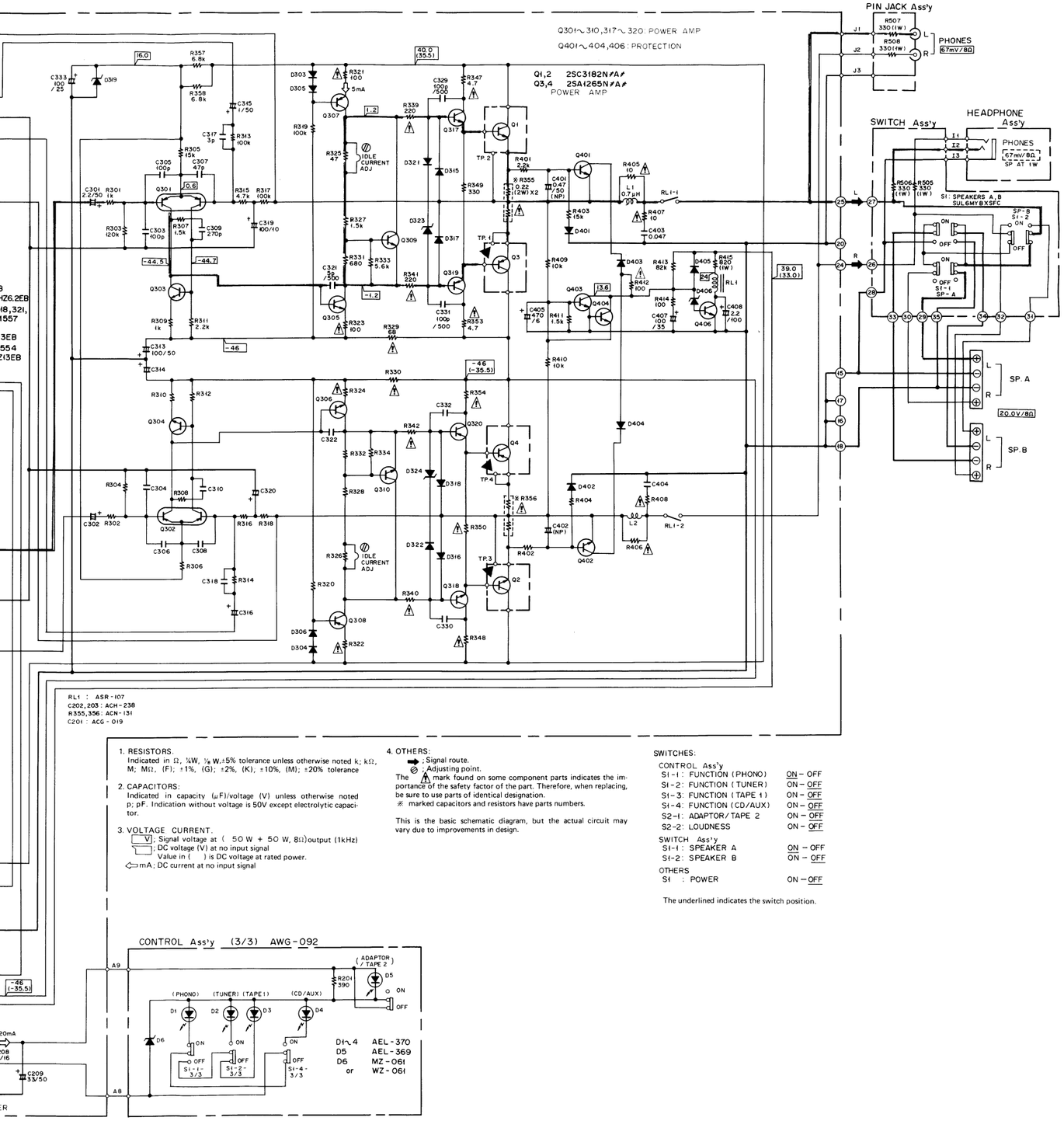
6. P.C. BOARD CONNECTION DIAGRAM




AF Ass'y (GWK-230)
PHONO
TUNER
AUX
TAPE 1
REC
PLAY
ADAPTOR/ TAPE 2
OUT/REC
IN/PLAY
T1 ATS-090 (KU)
C2 0.01/AC 250V
S1 POWER
ASG-541
S1
C1
AC120V
60Hz
C1 0.01
/AC125V
SWITCHED
TOAL 80W MAX
UNSWITCHED
100W MAX
TERMINAL Ass'y
PHONES
Q1 or Q203 NJM4558DXC M5218P 2SD438
Q301,302 2SA979
Q303,304,401,402 2SC2240
Q305,306 2SC2705#A#
Q307,308 2SA1145#A#
Q309,310,403,404 2SC2603
Q317,318,406 2SC2235#A#
Q319,320 2SA965#A#
D1,2 1GE2
D3 RB402
D319 RD16EB or HZ16EB
D6 RD6.2EB or HZ6.2EB
D406 RD13EB or HZ13EB
D303~306,315~318,321,322 1S1035 or 1S1555
D4,5 RD18EB or HZ18EB
D323,324 RD3.3EB or HZ3.3EB
D401~405 1S1554

7. SCHEMATIC DIAGRAM


AF Ass'y GWK-230
CONTROL Ass'y (1/3) AWG-092
CONTROL Ass'y (2/3) AWG-092
CONTROL Ass'y (3/3) AWG-092
PIN JACK Ass'y
SWITCH Ass'y
HEADPHONE Ass'y
Q301~310,317~320: POWER AMP
Q401~404,406: PROTECTION
Q1,2 2SC3182N
Q3,4 2SA1265N
POWER AMP
Q1 : EQUALIZER AMP
Q203: LED DRIVER
PHONO 2.5mV
TUNER 150mV
AUX 150mV
REC 150mV
TAPE 1 PLAY 150mV
OUT / REC 150mV
ADAPTOR / TAPE 2 IN / PLAY 150mV
PHONES 67mV/8Ω
SP. A
SP. B
20.0V/8Ω
AC POWER CORD ADG-073
AC 120V 60Hz
UNSWITCHED 100W MAX.
SWITCHED TOTAL 80W MAX.
FU1 : AEK-125
T1 ATS-090(KU)
S1: POWER ASG-541
S1: FUNCTION ASG-812
S2: SEA6V2B4S
VR1: ACT-171
VR2: ACT-044
RL1 : ASR-107
C202,203 : ACH-238
R355,356 : ACN-131
C201 : ACG-019
C1,2 : ACG-502
VR3,4 : ACT-176
BASS
TREBLE
LOUDNESS
BALANCE VR2 1M
VOLUME VR1-1/2 100k
PHONO TUNER TAPE AUX ADAPTOR
(PHONO) (TUNER) (TAPE1) (CD/AUX) (ADAPTOR / TAPE 2)
IDLE CURRENT ADJ
Q1 NJM4558DXC or M5218P
Q301,302 2SA979
Q303,304,401,402 2SC2240
Q305,306 2SC2705
Q307,308 2SA1145
Q309,310,403,404 2SC2603
Q317,318,406 2SC2235
Q319,320 2SA965
Q203 2SD438
D1,2 10E2
D3 RB402
D319 RD16EB or HZ16EB
D6 RD6.2EB or HZ6.2EB
D303~306,315~318,321, D322 1S1035 or 1S1557
D323,324 RD3.3EB or HZ3.3EB
D401~405 1S1554
D406 RD13EB or HZ13EB
D4,5 RD18EB or HZ18EB
D1 ~ 4 AEL-370
D5 AEL-369
D6 MZ-061 or WZ-061
1. RESISTORS.
Indicated in Ω, ¼W, ⅛ W, ±5% tolerance unless otherwise noted k; kΩ, M; MΩ, (F); ±1%, (G); ±2%, (K), ±10%, (M); ±20% tolerance
2. CAPACITORS:
Indicated in capacity (μF)/voltage (V) unless otherwise noted p; pF. Indication without voltage is 50V except electrolytic capacitor.
3. VOLTAGE CURRENT.
[V]; Signal voltage at (50 W + 50 W, 8Ω)output (1kHz)
; DC voltage (V) at no input signal
Value in ( ) is DC voltage at rated power.
⇦mA; DC current at no input signal
4. OTHERS:
➡ ; Signal route.
⊘ ; Adjusting point.
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
※ marked capacitors and resistors have parts numbers.
This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.
SWITCHES:
CONTROL Ass'y
S1-1: FUNCTION (PHONO) ON – OFF
S1-2: FUNCTION (TUNER) ON – OFF
S1-3: FUNCTION (TAPE 1) ON – OFF
S1-4: FUNCTION (CD/AUX) ON – OFF
S2-1: ADAPTOR/TAPE 2 ON – OFF
S2-2: LOUDNESS ON – OFF
SWITCH Ass'y
S1-1: SPEAKER A ON – OFF
S1-2: SPEAKER B ON – OFF
OTHERS
S1 : POWER ON – OFF
The underlined indicates the switch position.



1. RESISTORS.
Indicated in Ω, ¼W, ⅛ W,±5% tolerance unless otherwise noted k; kΩ, M; MΩ, (F); ±1%, (G); ±2%, (K), ±10%, (M); ±20% tolerance

2. CAPACITORS:
Indicated in capacity (μF)/voltage (V) unless otherwise noted p; pF. Indication without voltage is 50V except electrolytic capacitor.

3. VOLTAGE CURRENT.
[V]; Signal voltage at (50 W + 50 W, 8Ω) output (1kHz)
[ ]; DC voltage (V) at no input signal
Value in ( ) is DC voltage at rated power.
⇦mA; DC current at no input signal

4. OTHERS:
➡ ; Signal route.
⊘ ; Adjusting point.
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
※ marked capacitors and resistors have parts numbers.

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

SWITCHES:

CONTROL Ass'y
S1-1: FUNCTION (PHONO) ON – OFF
S1-2: FUNCTION (TUNER) ON – OFF
S1-3: FUNCTION (TAPE 1) ON – OFF
S1-4: FUNCTION (CD/AUX) ON – OFF
S2-1: ADAPTOR/TAPE 2 ON – OFF
S2-2: LOUDNESS ON – OFF

SWITCH Ass'y
S1-1: SPEAKER A ON – OFF
S1-2: SPEAKER B ON – OFF

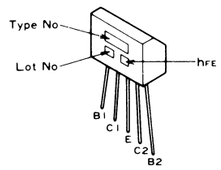
OTHERS
S1 : POWER ON – OFF

The underlined indicates the switch position.

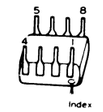
NOTE:
The indicated semiconductors are representative ones only. Other alternative semiconductors may be used and are listed in the parts list.

Exteranal appearances of transistor and IC

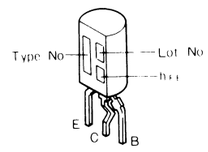
2SA979



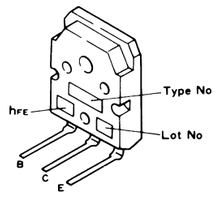
NJM4558DXC
M5218P



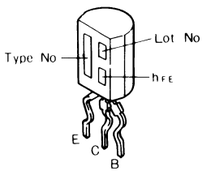
2SA1146/A/
2SC2705/A/
2SC2235/A/



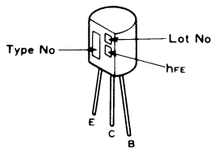
2SC3182N/A/
2SA1265N/A/



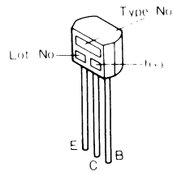
2SA965/A/
2SD438/A/



2SC2240



2SC2603



8. ELECTRICAL PARTS LIST

NOTES:

- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*
  Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω	*56 x 10¹*	*561*	*RD¼PS 5 6 1 J*
47kΩ	*47 x 10³*	*473*	*RD¼PS 4 7 3 J*
0.5Ω	*0R5*		*RN2H 0 R 5 K*
1Ω	*010*		*RS1P 0 1 0 K*

  Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ	*562 x 10¹*	*5621*	*RN¼SR 5 6 2 1 F*

- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *For your Parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.*
  ★★ GENERALLY MOVES FASTER THAN ★.
  This classification shall be adjusted by each distributor because it depends on model number , temperature, humidity, etc.

P.C. BOARD ASSEMBLIES

Mark	Part No.	Symbol & Description
	GWK-242	AF assembly
		Headphone jack assembly
		Switch assembly
		Pin jack assembly
	AWG-092	Control assembly

OTHERS

Mark		Part No.	Symbol & Description
⚠	★	ATS-090	T1 Power transformer
⚠		AKP-501	AC outlet
⚠		ADG-073	AC power cord
		AKE-105	8P Terminal (SPEAKERS)
⚠	★★	AEK-125	Fuse (4A)
⚠	★★	ASG-541	S1 Push switch (POWER)
⚠		ACG-502	C1, C2 Capacitor (0.01/AC125V)
		2SC3182N/A/-O/R*	Q1, Q2
		2SA1265N/A/-O/R*	Q3, Q4

*hfe of Q1–Q4 should have the same value.

AF Assembly (GWK-242)

SEMICONDUCTORS

Mark	Part No.	Symbol & Description
★★	NJM4558DXC (M5218P)	IC1
★★	2SA979	Q301, Q302
★★	2SA1146/A	Q307, Q308
★★	2SC2705/A	Q305, Q306
★★	2SC2235/A/-0/Y*	Q317, Q318
★★	2SA965/A/-0/Y*	Q319, Q320

*hfe of Q317~Q320 should have the same value.

★★	2SC2235/A	Q406
★★	2SD438 (2SD438/A/)	Q203
★★	2SC2240	Q303, Q304, Q401, Q402
★★	2SC2603	Q309, Q310, Q403, Q404
⚠ ★	RB402	D3
⚠ ★	I0E2	D1, D2
★	RD3.3EB (HZ3.3EB)	D323, D324
★	RD6.2EB (HZ6.2EB)	D6
★	RD13EB (HZ13EB)	D406
★	RD16EB (HZ16EB)	D319
★	RD18EB (HZ18EB)	D4, D5
	US1035 (1S1555)	D303–D306, D315–D318, D321, D322
★	1S1554	D401–D405

CAPACITORS

Mark	Mark	Symbol & Description
	ACH-238	C202, C203 Electrolytic (8200/56)
	CEA101M 50L	C313, C314
	ACG-019	C201 (0.01)
	CEANL 010 M 50	C315, C316
	CEANL 2R2M 50	C3, C4
	CEA 010M 50L	C11, C12, C17, C18
	CEA 100M 16L	C208
	CEA 101M 10L	C319, C320
	CEA 101M 35L	C407
	CEA 101M 25L	C333
	CEA 2R2M 50L	C301, C302
	CEA 2R2M 100L	C408
	CEA 220M 50L	C210
	CEA 470M 10L	C5, C6
	CEA 470M 25L	C204, C205
	CEA 471M 6L	C405
	CEA 330M 50L	C209
	CEANP R47M 50	C401, C402
	CQMA 222J 50	C9, C10
	CQMA 822J 50	C7, C8
	CQMA 473K 50	C403, C404
	CCDSL 050C 500	C321, C322
	CCDSL 101K 500	C329–C332
	CCDSL 030C 50	C317, C318
	CCDSL 470J 50	C307, C308
	CCDSL 101J 50	C303–C306
	CCDSL 221J 50	C1, C2
	CCDSL 271J 50	C309, C310

RESISTORS

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Part No.	Symbol & Description
	ACN-131	R355, R356 (0.22x2)
	RS1L821J	R415
	RS1PMF222J	R201, R203
	RS1L681J	R206
⚠	RFA¼PS□□□J	R205, R349, R350, R339–R342, R329–R330
	RD1/8PM□□□J	R29, R30, R307, R308 R325–R328, R331–R334 R401–R404, R409–R411, R413, R501–R504
	RD¼PM□□□J	R1–R16, R27, R28, R31, R32, R207–R209, R301–R306, R309–R320, R357, R358, R414
⚠	RD¼PMFL□□□J	R321–R324, R347, R348, R353, R354, R405–R408

OTHERS

Mark	Part No.	Symbol & Description
	ASR-107	RL1 Relay
	AKB-093	2P Terminal (PHONO)
	AKB-094	4P Terminal (TAPE, ADAPTOR)
	AKH-017	TR Socket

Headphone Assembly

Mark	Part No.	Symbol & Description
	AKN-045	Headphone jack

Switch Assembly

Mark	Part No.	Symbol & Description
	SUL6MYBXSFC	Push switch (SPEAKERS)
	RS1PMF331J	R505, R506

Pin Jack Assembly

Mark	Part No.	Symbol & Description
	AKB-093	Terminal (PHONES)
	RS1PMF331J	R507, R508

Control Assembly (AWG-092)

SEMICONDUCTORS

Mark	Part No.	Symbol & Description	
★	AEL-370	D1–D4	LED (Green)
★	AEL-369	D5	LED (Orange)
	MZ-061 (WZ-061)	D6	

CAPACITORS

Mark	Part No.	Symbol & Description
	CCDSL 121J 50	C1, C2
	CQMLA 124K 50	C103, C104
	CQMA 122K 50	C107, C108
	CQMA 562K 50	C109, C110
	CQMA 333K 50	C101, C102
	CQMA 683K 50	C5, C6
	CCDSL 270J 50	C105, C106
	CCDSL 221J 50	C3, C4

RESISTORS

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Part No.	Symbol & Description
★	ACT-171	VR1 Variable (VOLUME, 100k)
★	ACT-044	VR2 Variable (BALANCE, 1M)
★	ACT-176	VR3, VR4 Variable (TREBLE, BASS, 100k)
	RD¼PM□□□J	Other resistor

OTHERS

Mark	Part No.	Symbol & Description
★★	ASG-812	S1 Push switch (FUNCTION)
★★	SEA6V2B4S	S2 Push switch (ADAPTOR/TAPE2, LOUDNESS)

9. PACK

Mark	No.	Part
	1.	ARB
	2.	AHE
	3.	AHA

Mark	Part No.	Symbol & Description
	CEA 010M 50L	C11, C12, C17, C18
	CEA 100M 16L	C208
	CEA 101M 10L	C319, C320
	CEA 101M 35L	C407
	CEA 101M 25L	C333
	CEA 2R2M 50L	C301, C302
	CEA 2R2M 100L	C408
	CEA 220M 50L	C210
	CEA 470M 10L	C5, C6
	CEA 470M 25L	C204, C205
	CEA 471M 6L	C405
	CEA 330M 50L	C209
	CEANP R47M 50	C401, C402
	CQMA 222J 50	C9, C10
	CQMA 822J 50	C7, C8
	CQMA 473K 50	C403, C404
	CCDSL 050C 500	C321, C322
	CCDSL 101K 500	C329–C332
	CCDSL 030C 50	C317, C318
	CCDSL 470J 50	C307, C308
	CCDSL 101J 50	C303–C306
	CCDSL 221J 50	C1, C2
	CCDSL 271J 50	C309, C310

RESISTORS

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Part No.	Symbol & Description
	ACN-131	R355, R356 (0.22x2)
	RS1L821J	R415
	RS1PMF222J	R201, R203
	RS1L681J	R206
⚠	RFA¼PS□□□J	R205, R349, R350, R339–R342, R329–R330
	RD1/8PM □□□J	R29, R30, R307, R308 R325–R328, R331–R334 R401–R404, R409–R411, R413, R501–R504
	RD¼PM □□□J	R1–R16, R27, R28, R31, R32, R207–R209, R301–R306, R309–R320, R357, R358, R414
⚠	RD¼PMFL □□□J	R321–R324, R347, R348, R353, R354, R405–R408

OTHERS

Mark	Part No.	Symbol & Description
	ASR-107	RL1 Relay
	AKB-093	2P Terminal (PHONO)
	AKB-094	4P Terminal (TAPE, ADAPTOR)
	AKH-017	TR Socket

Headphone Assembly

Mark	Part No.	Symbol & Description
	AKN-045	Headphone jack

Switch Assembly

Mark	Part No.	Symbol & Description
	SUL6MYBXSFC	Push switch (SPEAKERS)
	RS1PMF331J	R505, R506

Pin Jack Assembly

Mark	Part No.	Symbol & Description
	AKB-093	Terminal (PHONES)
	RS1PMF331J	R507, R508

Control Assembly (AWG-092)

SEMICONDUCTORS

Mark	Part No.	Symbol & Description	
★	AEL-370	D1–D4	LED (Green)
★	AEL-369	D5	LED (Orange)
	MZ-061	D6	
	(WZ-061)		

CAPACITORS

Mark	Part No.	Symbol & Description
	CCDSL 121J 50	C1, C2
	CQMLA 124K 50	C103, C104
	CQMA 122K 50	C107, C108
	CQMA 562K 50	C109, C110
	CQMA 333K 50	C101, C102
	CQMA 683K 50	C5, C6
	CCDSL 270J 50	C105, C106
	CCDSL 221J 50	C3, C4

RESISTORS

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

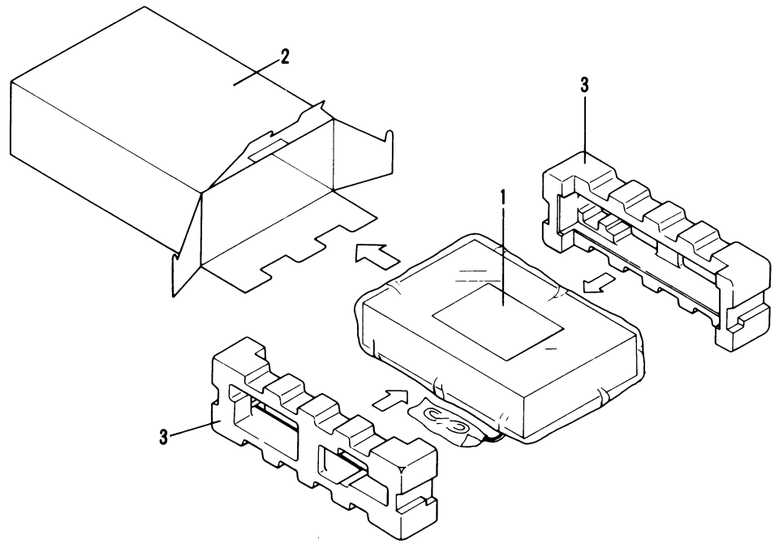
Mark	Part No.	Symbol & Description
★	ACT-171	VR1 Variable (VOLUME, 100k)
★	ACT-044	VR2 Variable (BALANCE, 1M)
★	ACT-176	VR3, VR4 Variable (TREBLE, BASS, 100k)
	RD¼PM □□□J	Other resistor

OTHERS

Mark	Part No.	Symbol & Description
★★	ASG-812	S1 Push switch (FUNCTION)
★★	SEA6V2B4S	S2 Push switch (ADAPTOR/TAPE2, LOUDNESS)

9. PACKING

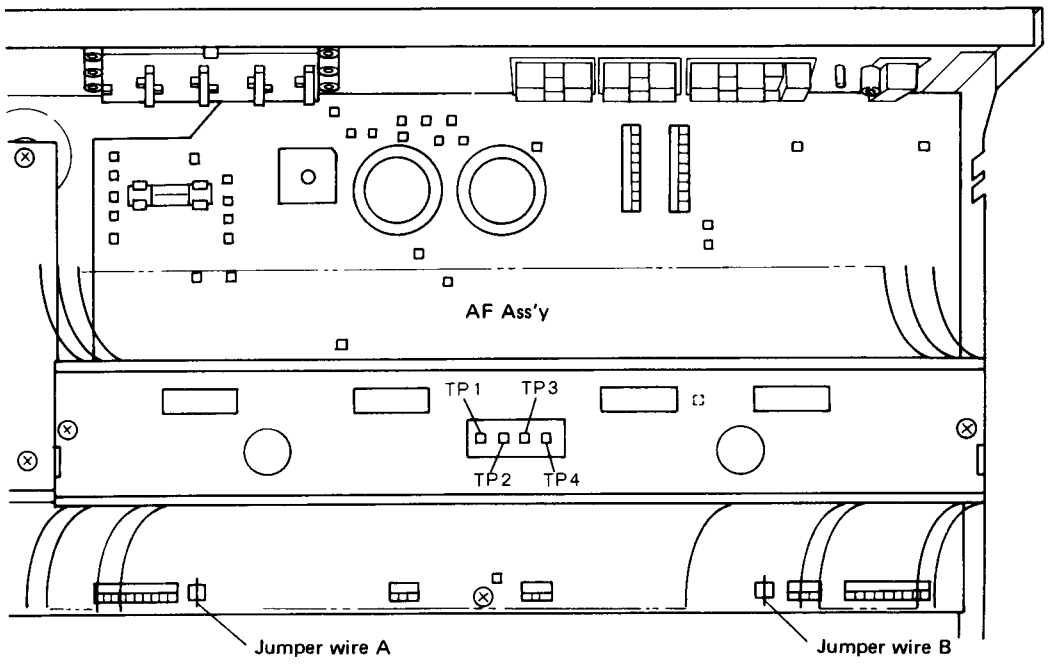
Mark	No.	Part No.	Desctiption
	1.	ARB-596	Operating instructions
	2.	AHE-315	Packing case
	3.	AHA-340	Front rear pad



10. ADJUSTMENTS

Idle Current Adjustment

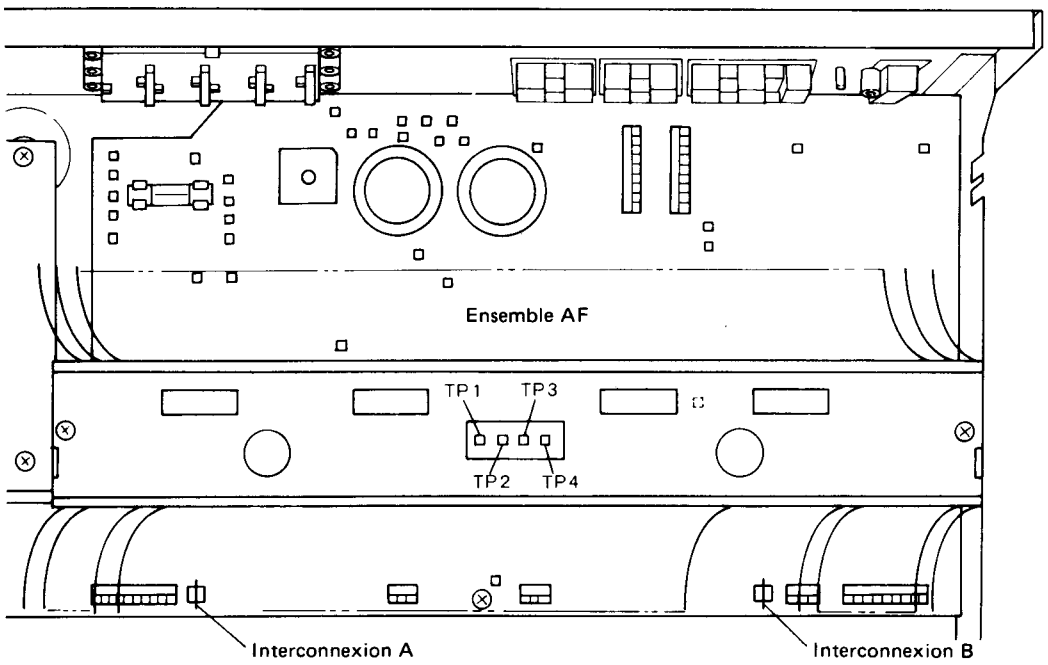
1. Turn the VOLUME control down to minimum level, turn the power on, and wait about 10 minutes.
2. Connect a DC voltmeter to the TP terminals (L ch; TP1 ⊕ and TP2 ⊖ , R ch; TP4 ⊖ and TP3 ⊕) of the AF assembly.
3. Check that the voltage between TP1 and TP2 (L ch) lies within the DC 0.2mV~22mV range. Then make a similar check for the R ch (between TP3 and TP4). If the voltage is less than 0.2mV, cut jumper wire A (L ch), and jumper wire B (R ch). If the voltage exceeds 22mV, check for circuit failure.



10. RÉGLAGE

Réglage du courant déwatté

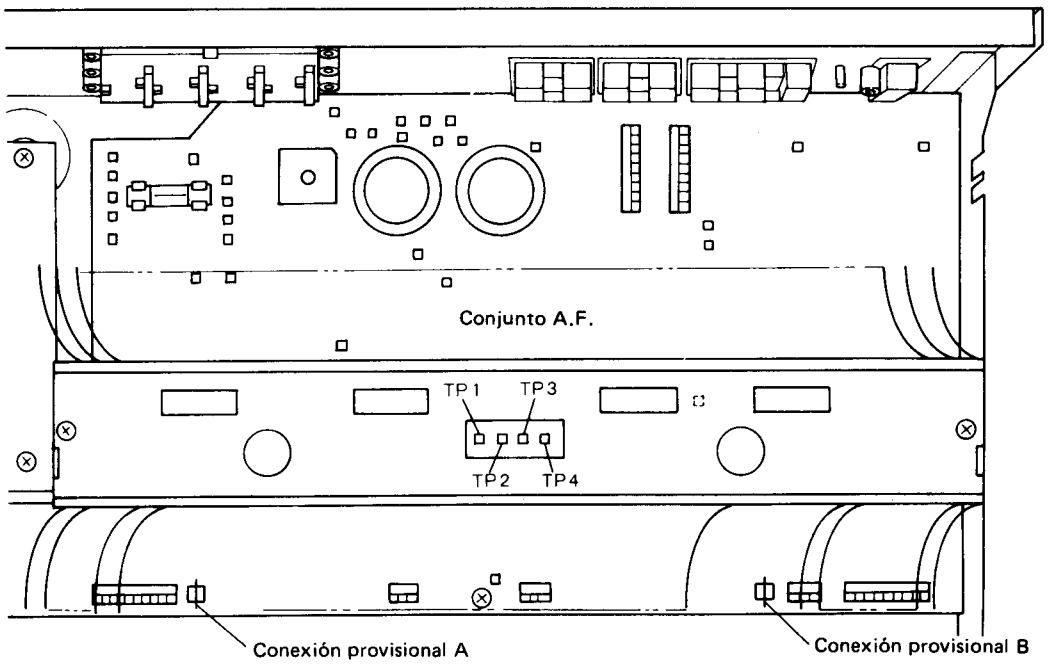
1. Tourner la commande de volume sur la position minimum, mettre l'appareil sous tension et attendre environ 10 minutes.
2. Connecter un voltmètre CC aux bornes TP (voie droite: TP1 ⊕ et TP2 ⊖ , voie gauche: TP4 ⊖ et TP3 ⊕) d'ensemble AF.
3. Vérifier que la tension entre TP1 et TP2 (voie droite) soit entre 0,2mV et 22mV CC. Vérifier de la même manière la voie gauche (entre TP3 et TP4). Couper l'interconnexion A (voie gauche) et l'interconnexion B (voie droite) si la tension est inferieure a 0,2mV. Lorsque la tension est supérieure a 22mV, s'assurer de l'absence de panne de circuit.



10. AJUSTE

Ajuste de la corriente devatiada

1. Poner el control de volumen (VOLUME) en su posición de nivel mínimo, conectar la alimentación y esperar unos 10 minutos.
2. Conectar un voltímetro de CC a los terminales TP (canal Der.; TP1 ⊕ y TP2 ⊖ , canal Izq.; TP4 ⊖ y TP3 ⊕) del conjunto A.F.
3. Comprobar que la tensión entre TP1 y TP2 (canal Der.) esté dentro del margen de 0,2mV ~110mV CC. Luego realizar una comprobación similar para el canal Izq. (entre TP3 y TP4). Si la tensión es menor de 0,2mV, cortar la conexión provisional A (canal Izq.), y conectar provisionalmente B (canal Der.). Si la tensión excede de 22mV, comprobar que no haya ninguna avería en el circuito.



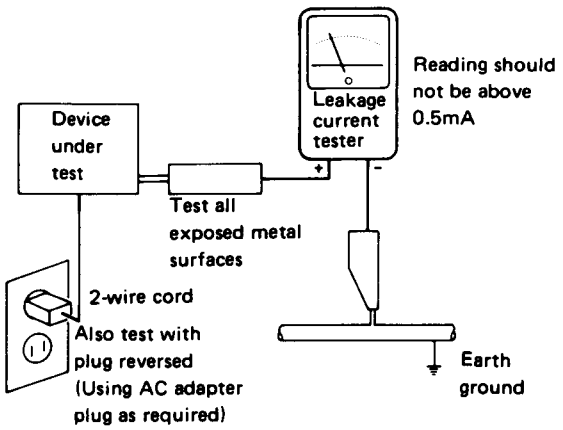
11. SAFFTY INFORMATION

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service tecnician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.


Reading should not be above 0.5mA
Leakage current tester
Device under test
Test all exposed metal surfaces
2-wire cord
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

12.FOR KC TYPE

The KC type is the same as the KU type with the exception of the following section.

Contrast of Miscellaneous Parts

Mark	Symbol & Description		Parts No.		Remarks
			KU type	KC type	
⚠ ★	T1	Power transformer (120V)	ATS-090	ATS-091	
⚠		AC Power cord	ADG-073	ADG-077	
⚠		AC socket	AKP-501	AKP-504	
		AC cord stopper	.....	AEC-327	
		Packing case	AHE-315	AHE-316	

13. FOR HE TYPE

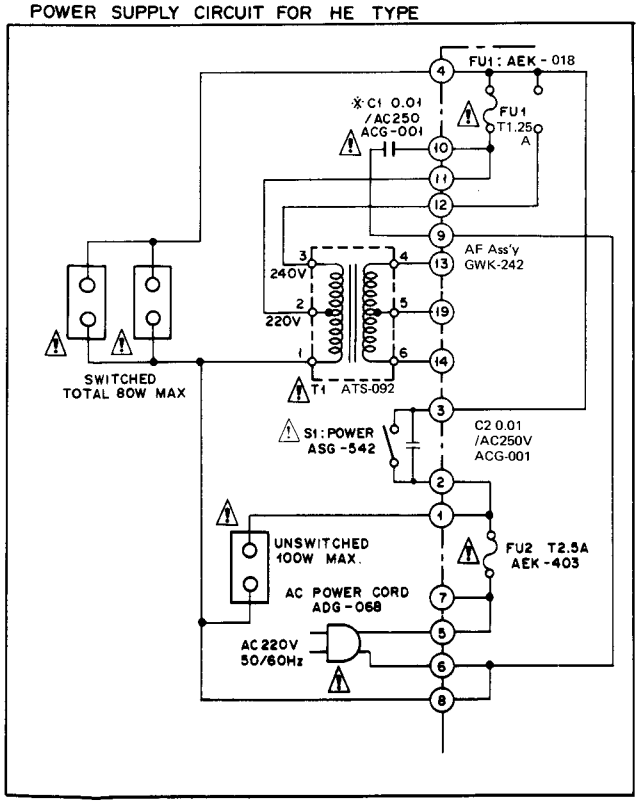
The HE type is the same as the KU type with the exception of the following sections.

Contrast of Miscellaneous Parts

Mark	Symbol & Description	Part No.		Remarks
		KU type	HE type	
⚠ ★	T1 Power transformer (120V)	ATS-090	.....	
	(220V, 240V)	.....	ATS-092	
⚠★★	FU1 Fuse (4A)	AEK-125	.....	
	(T1.25A)	.....	AEK-018	
⚠★★	FU2 Fuse (T2.5A)	.....	AEK-403	
⚠★★	S1 Push switch (POWER)	ASG-541	ASG-542	
⚠	C1,C2 Capacitor (0.01)	ACG-502	ACG-001	
⚠	AC socket	AKP-501	AKP-502	
⚠	AC power cord	ADG-073	ADG-068	
	Operating instructions (English)	ARB-596	.....	
	(English/French/German/Italian)	.....	ARE-095	
	Packing case	AHE-315	AHE-316	

Schematic Diagram

POWER SUPPLY CIRCUIT FOR HE TYPE



Line Voltage Selection

Line voltage can be changed with following steps.

1. Disconnect the AC power cord.
2. Remove the top cover.
3. Take out the fuse (AEK-018) from the fuse assembly.
4. Re-install the fuse in the correct voltage indication (see Fig. 1).
5. Stick the line voltage label on the rear panel.

Part No.	Description
AAX-193	220V label
AAX-192	240V label

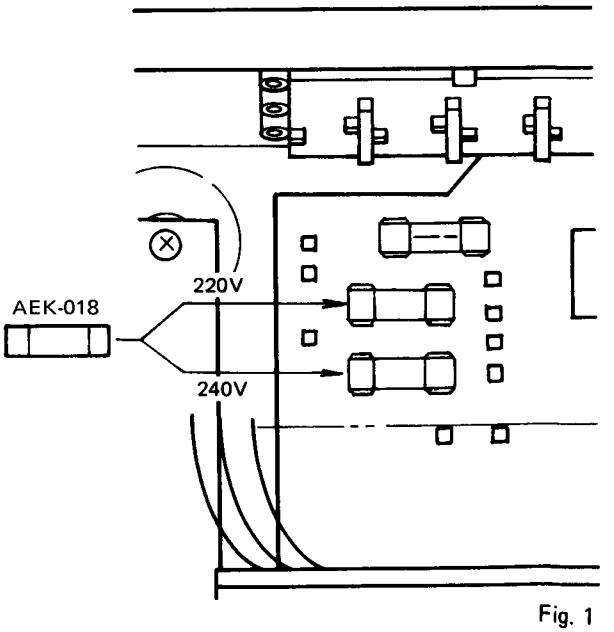


Fig. 1

14. FOR HEZ TYPE

The HEZ type is the same as the KU type with the exception of the following sections.

Contrast of Miscellaneous Parts

Mark	Symbol & Description	Part No.		Remarks
		KU type	HB type	
⚠ ★	T1 Power transformer (120V)	ATS-090	.....	
	(220V, 240V)	.....	ATS-092	
⚠★★	FU1 Fuse (4A)	AEK-125	.....	
	(T1.25A)	.....	AEK-018	
⚠★★	FU2 Fuse (T2.5A)	.....	AEK-403	
⚠★★	S1 Push switch (POWER)	ASG-541	ASG-542	
⚠	C1, C2 Capacitor (0.01)	ACG-502	ACG-001	
	C3~C6 Capacitor	.....	CQMA472K50	
	C7 Capacitor	.....	CQMA333K50	
⚠	AC Socket	AKP-501	AKP-505	
⚠	AC Power cord	ADG-073	ADG-063	
	AF assembly	GWK-242	GWK-243	
	L1 Choke coil	ATH-054	ATH-060	
	C1, C2	CCDSL271J50	CKDYB391K50	
	C19, C20, C501 ~ C516	.....	CKDYB391K50	
	C21, C22	.....	CCDSL101J50	
	R405	RD1/4PMFL100J	RD1/4PMFL101J	
	R509 ~ R516	.....	RD1/8PM222J	
	Packing case	AHE-315	AHE-316	

Line Voltage Selection

Line voltage can be changed with following steps.

1. Disconnect the AC power cord.
2. Remove the top cover.
3. Take out the fuse (AEK-018) from the fuse assembly.
4. Re-install the fuse in the correct voltage indication (see Fig. 1).
5. Stick the line voltage label on the rear panel.

Part No.	Description
AAX-193	220V label
AAX-192	240V label

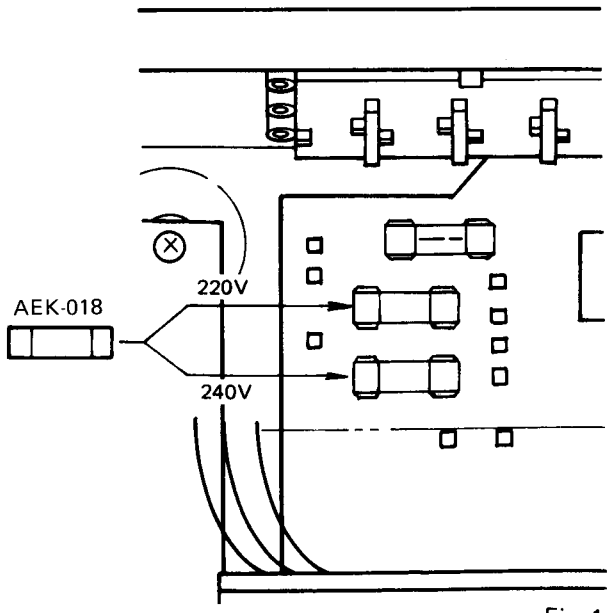
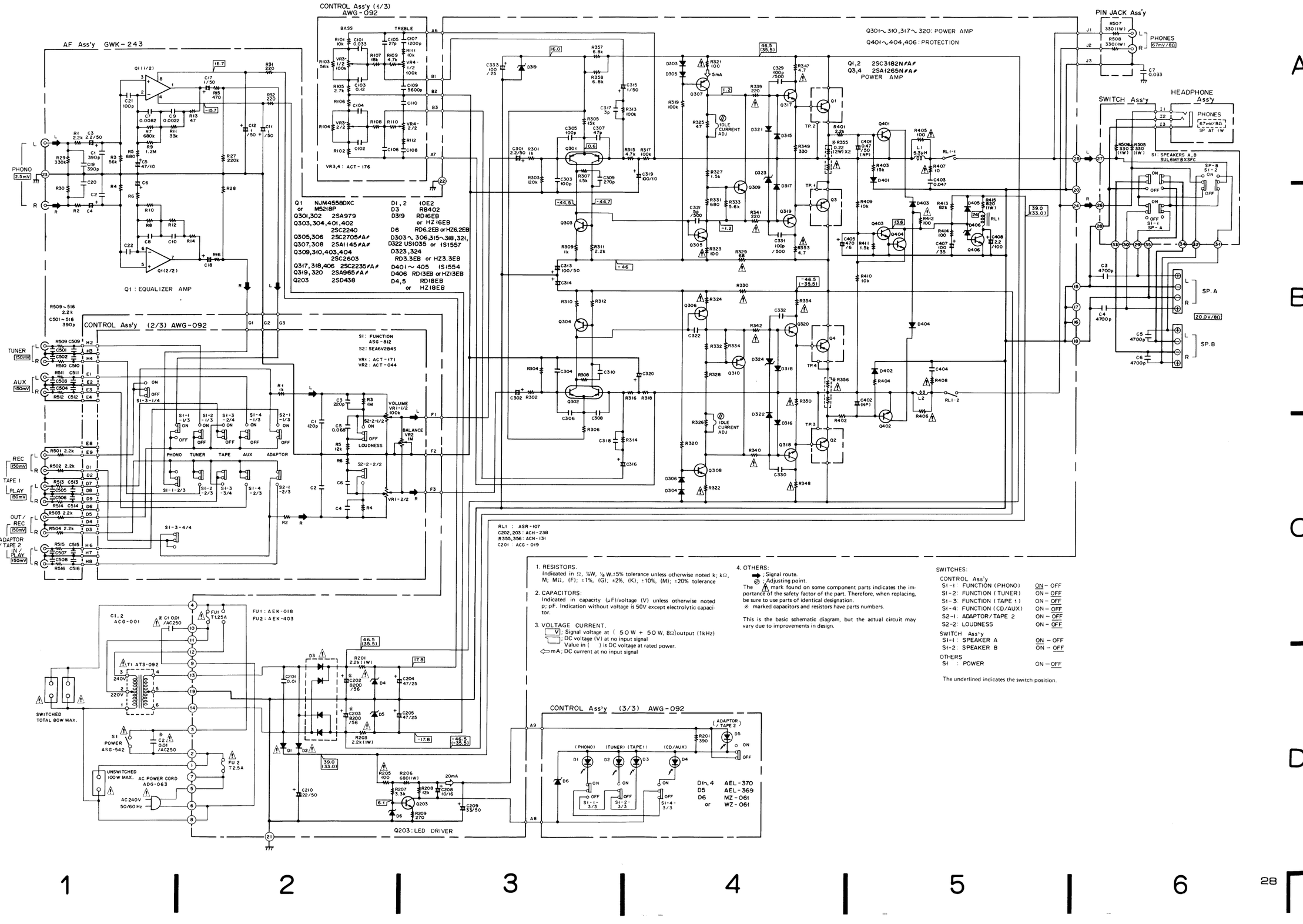


Fig. 1

Schematic Diagram



1. RESISTORS.
Indicated in Ω, ¼W, ½W, ±5% tolerance unless otherwise noted k; kΩ, M; MΩ, (F); ±1%, (G); ±2%, (K), ±10%, (M); ±20% tolerance

2. CAPACITORS:
Indicated in capacity (μF)/voltage (V) unless otherwise noted p; pF. Indication without voltage is 50V except electrolytic capacitor.

3. VOLTAGE CURRENT.
(V); Signal voltage at (50W + 50W, 8Ω) output (1kHz)
; DC voltage (V) at no input signal
( ) ; Value in ( ) is DC voltage at rated power.
⇨mA; DC current at no input signal

4. OTHERS:
➡ ; Signal route.
⊘ ; Adjusting point.
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
※ marked capacitors and resistors have parts numbers.

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

SWITCHES:

CONTROL Ass'y
- SI-1 : FUNCTION (PHONO) ON – OFF
- SI-2 : FUNCTION (TUNER) ON – OFF
- SI-3 : FUNCTION (TAPE 1) ON – OFF
- SI-4 : FUNCTION (CD/AUX) ON – OFF
- S2-1 : ADAPTOR/TAPE 2 ON – OFF
- S2-2 : LOUDNESS ON – OFF

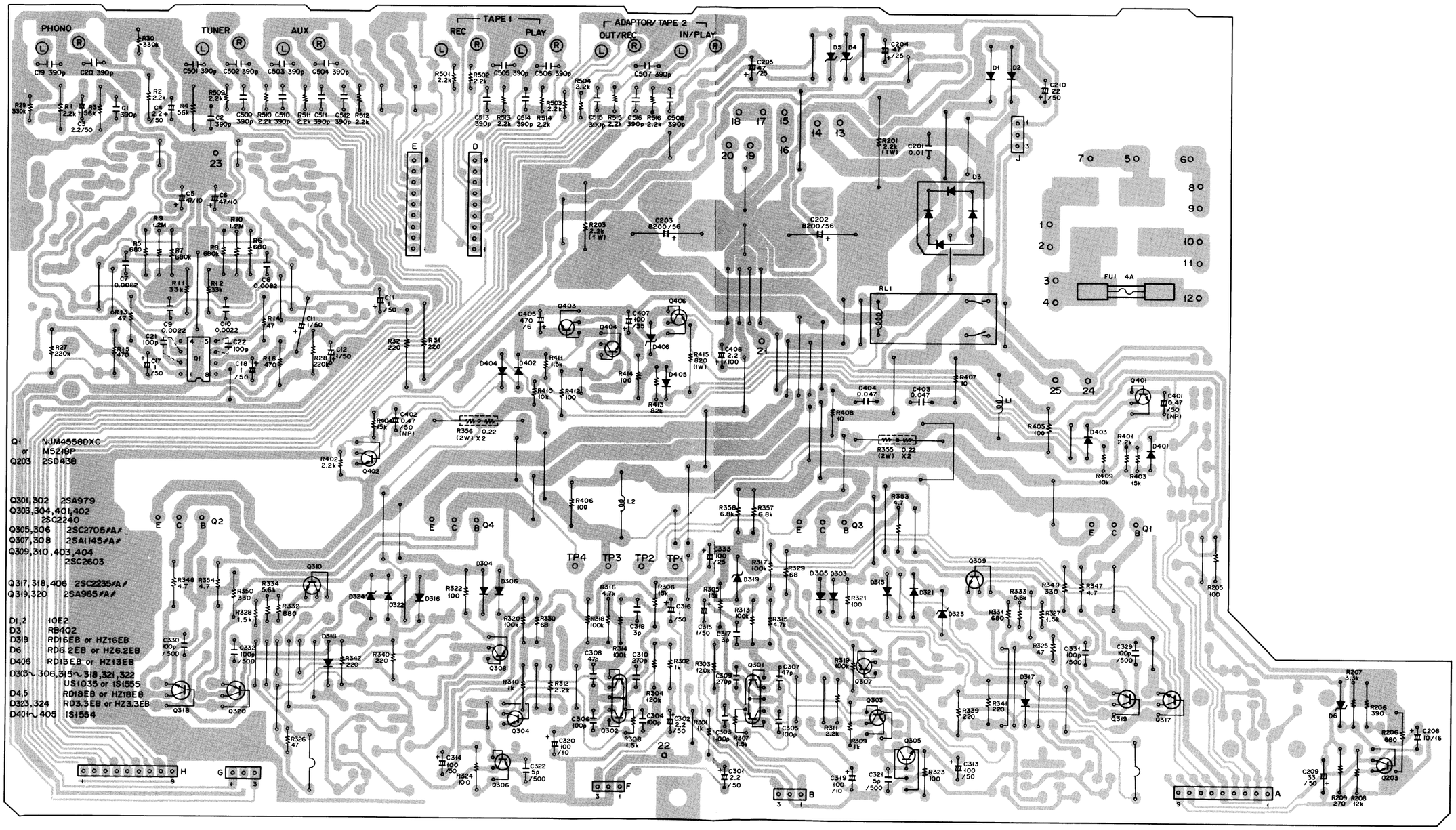
SWITCH Ass'y
- SI-1 : SPEAKER A ON – OFF
- SI-2 : SPEAKER B ON – OFF

OTHERS
- SI : POWER ON – OFF

The underlined indicates the switch position.

SA-750HEZ

P.C. Board Patarn



15. FOR S TYPE

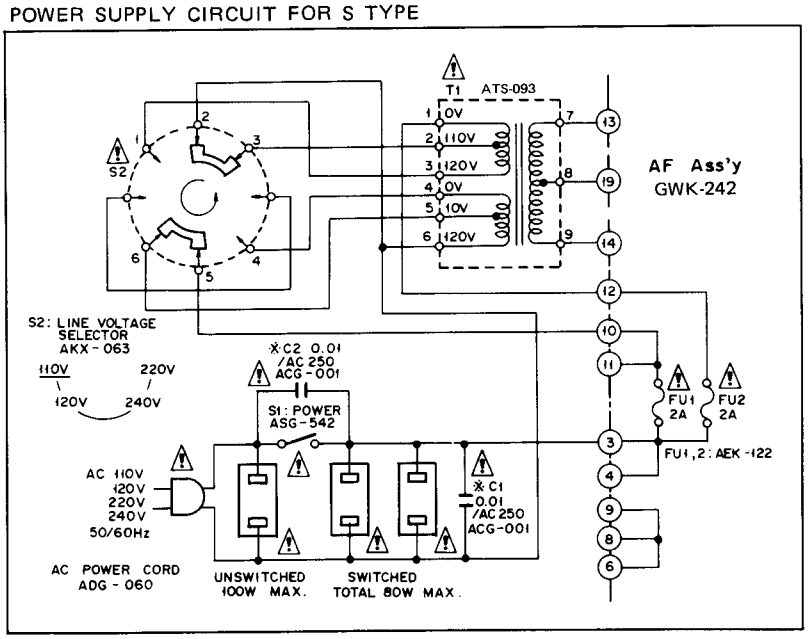
The S type is the same as the KU type with the exception of the following sections.

Contrast of Miscellaneous Parts

Mark	Symbol & Description	Part No.		Remarks
		KU type	S type	
⚠ ★	T1 Power transformer (120V)	ATS-090	.....	
	(110V, 120V, 220V, 240V)	.....	ATS-093	
⚠★★	FU1 Fuse (4A)	AEK-125	.....	
	(2A)	.....	AEK-122	
⚠★★	FU2 Fuse (2A)	.....	AEK-122	
⚠★★	S2 Line voltage selector	.....	AKX-063	
⚠	C1, C2 Capacitor (0.01)	ACG-502	ACG-001	
⚠	AC power cord	ADG-073	ADG-060	
	Operating instructions (Spanish)	.....	ARC-065	
	Packing case	AHE-315	AHE-316	

Schematic Diagram

POWER SUPPLY CIRCUIT FOR S TYPE



16. FOR YP TYPE

The YP type is the same as the KU type with the exception of the following sections.

Contrast of Miscellaneous Parts

Mark	Symbol & Description	Part No.		Remarks
		KU type	YP type	
⚠ ★	T1 Power transformer (120V)	ATS-090	.....	
	(240V)	.....	ATS-092	
⚠ ★★	FU1 Fuse (4A)	AEK-125	.....	
	(1A)	.....	AEK-018	
⚠ ★★	S1 Push switch (POWER)	ASG-541	ASG-542	
⚠	C1 Capacitor (0.01)	ACG-502	ACG-001	
⚠	C2 Capacitor (0.01)	ACG-502	.....	
⚠	AC socket	AKP-501	.....	
⚠	AC power cord	ADG-073	ADG-064	
	Packing case	AHE-315	AHE-316	

Schematic Diagram

POWER SUPPLY CIRCUIT FOR YP TYPE